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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/609,167	06/27/2003	John B. Hageman	DP-308578 7500/244	7809
7590	08/04/2005			EXAMINER
Scott A McBain Delphi Technologies Inc Legal Staff, mail Code: 480-410-202 P.O. Box 5052 Troy, MI 48007			SCHWARTZ, CHRISTOPHER P	
			ART UNIT	PAPER NUMBER
			3683	
DATE MAILED: 08/04/2005				

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)
	10/609,167	HAGEMAN ET AL.
	Examiner	Art Unit
	Christopher P. Schwartz	3683

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 25 May 2005.
- 2a) This action is **FINAL**.                                    2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1,6,8-10 and 13 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1,6,8-10 and 13 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All    b) Some \* c) None of:

1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.

- 4) Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) Notice of Informal Patent Application (PTO-152)
- 6) Other: \_\_\_\_\_.

## DETAILED ACTION

1. Applicant's amendment filed 5/25/05 has been received and considered. No amendment to the claims has been made.

### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. Claims 1,6,8,10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Deane et al. in view of Kapaan et al.

Regarding claims 1,10 Deane et al. discloses a brake assembly comprising a rotor (inherent in the reference) a brake caliper 10 including a hydraulic "actuator motor", at least one friction pad and at least one "heat pipe" 16 functioning as claimed

which extends into coolant lines 52,53—or other “heat pipes”, as broadly claimed. Note also coolant line or “heat pipe” 23.

Deane et al. lacks using an electric “actuator”.

It is notoriously well known in the art that such “actuators” may in fact be hydraulic, electric or pneumatic and are interchangeable. Kapaan et al. (see claims 22-24) is relied upon to provide this general teaching.

The ordinary skilled worker in the art at the time of the invention would have found it obvious to have substituted an electric actuator (having a “stator”) for the hydraulic actuator of Deane et al. dependent upon the actuation and control characteristics desired from the motor. For instance it is often easier to adjust for wear of the brake pads with electric motors. Another advantage may be savings on space and weight. Any of the heat pipes of Deane et al. discussed above are inherently “connected to” the stator (i.e. housing, coil, yoke etc.) of the actuator in Deane et al., as modified above.

Regarding claim 6 simply to have attached the thermal conduit of Deane et al. to a “suspension component” would have been obvious to the ordinary skilled worker in the art at the time the invention was made to keep it clear from possible damage or simply as a necessary attachment point. Another take on the limitation of this claim is that since the calipers are attached to the wheels which are in turn attached to the suspension components of the vehicle, then so is/are the heat pipe(s) discussed above.

Regarding claim 8 see the top of column 3 line 2.

5. Claims 9,13 rejected under 35 U.S.C. 103(a) as being unpatentable over Deane et al., in view of Kapaan et al., as applied to claims 1,10 above, and further in view of Bryant.

Regarding claims 9,13 Deane et al. uses a radiator as the heatsink member. Radiators have "fins" or vanes. Note also the fan in figure 1.

Bryant is simply relied upon to provide a clearer picture at 206,210 (see top of col. 9) of what is presumably taught or shown in Deane et al.

#### ***Response to Arguments***

Applicant's arguments filed 5/25/05 have been fully considered but they are not persuasive. It is well known in the art that hydraulic brake actuators or "motors" may be substituted for one another dependent upon such well known engineering considerations as braking efficiency, costs, weight and heating considerations. The reference to Kapaan et al. has been relied upon for teaching the known interchangeability of brake actuators/motors.

As broadly claimed, the heat pipe in the modified reference to Deane et al. can be considered to be "connected to" the stator of the electric motor since all of the braking components thereof are "connected to" one another.

The reference to Shirai et al. at elements 232,234 in figure 13 and Arnot lines 6-16 of col. 4 although not applied should be reviewed for teaching the known problem and solution of heating of the electric brake motor. The other embodiments of Shirai et al. should also be reviewed for a similar teaching.

In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

### ***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher P. Schwartz whose telephone number is 703-308-0576. The examiner can normally be reached on M-F 9:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dave Bucci can be reached on 703-308-3668. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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8/1/05